SEMESTER EXAMINATION, DECEMBER, 2025

Course Name: - B. Tech **Semester: - I**

Paper Name: - Introduction to Python Programming **Paper Code: - NES-103**

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. **Max Marks-70**

समय– 3 घण्टे + 20 मिनट प्रति घंटे अतिरिक्त–दृष्टिबाधित एवं सह लेखक परीक्षार्थियों के लिए। अधिकतम अंक–70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 7 given questions. Each question carries 7 marks.
- Section C- Answer any 2 out of 3 given questions. Each question carries 10 marks.

Section – A (खण्ड–अ)

Objective Questions (वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions. 5×3 =15

निम्नलिखित सभी प्रश्न अनिवार्य हैं।

i) Python is ___ typed language.

a) Strongly
b) Weakly
c) Dynamically
d) None of these

ii) What is the primary purpose of *args in Python function definitions?

a) To define optional parameters with default values
b) To accept a variable number of positional (non-keyword) arguments.
c) To accept a variable number of keyword arguments (key-value pairs)
d) To enforce type hinting for arguments

iii) What is printed by the following statements?

```
s = "python rocks"
print(s[7:11] * 3)
```

a) rockrockrock
b) rocks rocks rocks
c) rocksrocksrocks
d) error

iv) What will the value of variable a?

```
a = 35%10
```

a) 3.5
b) 3
c) 5
d) Compiler error

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v) What will be the output of the following Python code?

```
def cube(x):
    return x * x * x
x = cube(3)
print (x)
```

a) 9
b) 3
c) 27
d) 19683

Section – B (खण्ड–ब)
Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions. 5×7=35

i. State and explain any six features of python.

ii. What do you mean by string slicing? Write any five built-in functions used in string.

iii. Differentiate between list, tuple and dictionary.

iv. Explain the following loop with a flow diagram, syntax and suitable example

a) For b) While c) Nested for loop

v. Demonstrate the following functions/methods which operates on dictionary in Python with suitable examples.

i) dict () ii) len () iii) clear () iv) pop () v) keys () vii) values () vii) item ()

vi. Write a python program to check given a three-digit number is Armstrong number or not

vii. Demonstrate the following functions/methods which operates on tuples in Python with suitable examples.

i) len () ii) count () iii) index () iv) sorted () v) min () vi) max () vii) cmp ()

Section – C (खण्ड–स)
Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following question. 2×10=20

i) (a) Differentiate between mutable and immutable data types in python.

(b) What is an exception? Discuss some built-in exceptions in python.

ii) Discuss the different types of argument passing methods in python. Explain variable length argument with suitable example.

iii) Write short notes on following

a) Indentation b) Namespace c) operator precedence d) operator associativity e) class

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